ENVIRONMETRICS
2345 Millpark Drive
Maryland Heights, MO 63043-3529
(314) 427-0550

RIEDEL ENVIRONMENTAL SERVICES
500 EASTERN AVENUE
BENSONVILLE, IL 60106

ATTN: MARK DOUGLAS

INVOICE # 31579
PROJECT # 8168 - SAUGET, SITE G

PESTICIDES MATRIX SPIKE

SAMPLE ID: GW-32
LAB ID: 9504/191-001

COMPOUND	SPIKE CONC.	CONC.	SAMPLE CONC.	PERCENT RECOVERY
LINDANE	0.22	2.58	2.52	27
HEPTACHLOR	0.22	0.00	0.00	0
ALDRIN	0.22	0.00	0.00	0
DIELDRIN	0.55	0.48	0.36	22
ENDRIN	0.55	1.07	1.16	-16
p'p'-DDT	0.55	0.51	0.51	-1

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ATTN: MARK DOUGLAS

INVOICE # 31579
PROJECT # 8168 - SAUGET, SITE G

PESTICIDES & PCB ANALYSIS
METHOD SW-846 8080

SAMPLE ID: METHOD BLANK
LAB ID: OP-6227

SURROGATES	ADDED µg/l	CONC. DB-608	PERCENT RECOVERY
TCMX	0.49	0.26	54
DCB	0.50	0.40	80

11B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS MATRIX SPIKE SAMPLE

ENVIRONMETRICS
GW-3 2345 Millpark Drive
Maryland Heights, MO 63043-3529
(314) 427-0550

Lab Name: Environmetrics Contract: RIEBEE

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9504-191-001

Sample wt/vol: 900 (g/ml) ML Lab File ID: >A6567

Level: (low/med) LOW Date Received: 04/13/95

% Moisture: NA decanted: (Y/N) N Date Extracted: 04/13/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/18/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.10

GPC Cleanup: (Y/N) N pH: NA

COMPOUND	Conc	Sample	Spike	Recovery
Phenol	190	0	220	87
2-Chlorophenol	160	0	220	71
1,4-Dichlorobenzene	110	43	110	61
N-Nitroso-Di-nPropylamine	2	0	110	2
1,2,4-Trichlorobenzene	85	0	110	77
4-Chloro-3-Methylphenol	190	0	220	86
Acenaphthene	60	0	110	55
4-Nitrophenol	120	0	220	54
2,4-Dinitrotoluene	76	0	110	69
Pentachlorophenol	200	0	220	89
Pyrene	38	0	110	34

WATER SEMIVOLATILE SURROGATE RECOVERY

ENVIRONMETRICS
2345 Millpark Drive
Maryland Heights, MO 63043-3529
(314) 427-0550

Lab Name: Environmetrics Contract: RIEDEL

Lab code: Case No.: SAS No.: SDG No.:

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (DCB)#	S3 (FBP)#	S4 (TPH)#	S5 (PHL)#	S6 (2CP)#	S7 (2FP)#	S8 (TBP)#	TOT OUT
01	WASBLK6219	76	52	68	107	63	66	60	87	0
02	9504191003	75	53	70	97	59	62	61	77	0
03	9504191002	81	65	61	60	74	77	73	72	0
04	9504191001	66	71	55	62	79	80	75	55	0
05	9504191-2DL	68	57	76	74	59	63	63	54	0
06	9504191-1MS	73	61	60	65	78	47	64	73	0
07	WASLCS6219	90	65	82	101	72	78	77	87	0
08										
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		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(35-114)	
S2 (DCB)	= 1,2-Dichlorobenzene-d4	(35-114)	(advisory)
S3 (FBP)	= 2-Fluorobiphenyl	(43-116)	
S4 (TPH)	= Terphenyl-d14	(33-141)	
S5 (PHL)	= Phenol-d5	(10- 94)	
S6 (2CP)	= 2-Chlorophenol-d4	(10- 94)	(advisory)
S7 (2FP)	= 2-Fluorophenol	(21-100)	
S8 (TBP)	= 2,4,6-Tribromophenol	(10-123)	

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

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500 EASTERN AVENUE
BENSONVILLE, IL 60106

ATTN: MARK DOUGLAS

INVOICE # 31579
PROJECT # 8168 - SAUGET, SITE G

PESTICIDES & PCB ANALYSIS
METHOD SW-846 8080

SAMPLE ID: METHOD BLANK
LAB ID: OP-6227

CAS#	PARAMETER	PRACTICAL QUANTITATION LIMIT	RESULTS
319-84-6	α-BHC	0.03 µg/l	U µg/l
58-89-9	τ-BHC (Lindane)	0.04	U
76-44-8	Heptachlor	0.03	U
309-00-2	Aldrin	0.04	U
319-85-7	ß-BHC	0.06	U
319-86-8	δ-BHC	0.09	U
1024-57-3	Heptachlor epoxide	0.02	U
959-98-8	Endosulfan I	0.14	U
57-74-9	g-Chlordane	0.04	U
57-74-9	a-Chlordane	0.04	U
72-55-9	4,4'-DDE	0.04	U
60-57-1	Dieldrin	0.02	U
72-20-8	Endrin	0.06	U
72-54-8	4,4'-DDD	0.11	U
33213-65-9	Endosulfan II	0.04	U
50-29-3	4,4'-DDT	0.12	U
7421-93-4	Endrin aldehyde	0.12	U
1031-07-8	Endosulfan Sulfate	0.12	U
72-43-5	Methoxychlor	0.20	U
53494-70-5	Endrin Ketone	0.10	U
12789-03-6	Chlordane	1.00	U
8001-35-2	Toxaphene	5.00	U
12674-11-2	PCB-1016	1.00	U
1104-28-2	PCB-1221	2.00	U
11141-16-5	PCB-1232	1.00	U
53469-21-9	PCB-1242	1.00	U
12672-29-6	PCB-1248	1.00	U
11097-69-1	PCB-1254	1.00	U
11096-82-5	PCB 1260	1.00	U

U = UNDETECTED
B = PRESENT IN BLANK
J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

DATE COLLECTED : ---
DATE RECEIVED : ---
DATE ANALYZED : 4/18/95
ANALYST : J.K.

APRIL 21, 1995

WAYNE L. COOPER
LABORATORY DIRECTOR

ENVIRONMETRICS

2345 Millpark Drive
Maryland Heights, MO 63043-3529
(314) 427-0550

RIEDEL ENVIRONMENTAL SERVICES
500 EASTERN AVENUE
BENSONVILLE, IL 60106

ATTN: MARK DOUGLAS

INVOICE # 31579 **SEMIVOLATILE ORGANIC COMPOUNDS**
PROJECT # 8168 - SAUGET, **METHOD SW-846 8270**
SITE G **PAGE TWO**

SAMPLE ID: METHOD BLANK
LAB ID: WASBLK6219

CAS NUMBER		PRACTICAL QUANTITATION LIMIT	RESULTS
100-02-7	4-Nitrophenol	50 µg/l	U µg/l
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenol phenyl ether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl phenyl ether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
92-87-4	Benzidine	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

U = UNDETECTED
B = PRESENT IN BLANK
J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

APRIL 21, 1995

DATE COLLECTED : ---
DATE RECEIVED : ---
DATE EXTRACTED : 4/13/95
DATE ANALYZED : 4/18/95
ANALYST : D.C.

WAYNE L. COOPER, PhD
LABORATORY DIRECTOR

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

ENVIRONMETRICS
2345 Millpark Drive
Maryland Heights, MO 63043-3529
(314) 427-0550

Lab Name: ENVIRONMETRICS Contract: REIDEL

Lab code: 8240 Case No.: SAS No.: SDG No.:

	EPA SAMPLE NO.	S1 (DCE) #	S2 (TOL) #	S3 (BFB) #	S4 ( ) #	TOT OUT
01	METH BLANK	101	103	114		0
02	LCS	105	102	118 *		1
03	9504191001	113	95	114		0
04	9504191001MS	110	103	128 *		1
05	9504191002	104	102	114		0
06	9504191003	105	99	115 *		1
07	9504191001DL	99	98	113		0
08	9504191001DMS	74 *	92	88		1
09	9504191002DL	96	101	115		0
10	9504191003RE	94	100	106		0
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		QC LIMITS	
S1 (DCE)	= 1,2-Dichloroethane-d4	(76-114)	
S2 (TOL)	= Toluene-D8	(88-110)	
S3 (BFB)	= Bromofluorobenzene	(86-115)	(advisory)

\# Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

page __ of __.

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RIEDEL ENVIRONMENTAL SERVICES
500 EASTERN AVENUE
BENSONVILLE, IL 60106

ATTN: MARK DOUGLAS

INVOICE # 31579 **SEMIVOLATILE ORGANIC COMPOUNDS**
PROJECT # 8168 - SAUGET, **METHOD SW-846 8270**
SITE G **PAGE ONE**

SAMPLE ID: METHOD BLANK
LAB ID: WASBLK6219

CAS NUMBER		PRACTICAL QUANTITATION LIMIT	RESULTS
62-75-9	N-Nitrosodimethylamine	10 µg/l	U µg/l
108-95-2	Phenol	10	U
111-44-4	bis(2-chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	o-Cresol	10	U
39638-32-9	bis-(2-Chloro2propyl)Ether	10	U
106-44-5	m & p-Cresol	10	U
621-64-7	N-Nitroso-Di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
103-33-3	Azobenzene	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U

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500 EASTERN AVENUE
BENSONVILLE, IL 60106

ATTN: MARK DOUGLAS

INVOICE # 31579 **VOLATILE ORGANIC ANALYSIS**
PROJECT # 8168 - SAUGET, SITE G **METHOD SW-846 8240**
SAMPLE ID: METHOD BLANK
LAB ID: VBBLK107A

CAS NUMBER		PRACTICAL QUANTITATION LIMIT	RESULTS
74-87-3	Chloromethane	10 µg/l	U µg/l
74-83-9	Bromomethane	10	U
85-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5.0	U
67-64-1	Acetone	100	U
107-02-8	Acrolein	100	U
75-15-0	Carbon Disulfide	100	U
107-13-1	Acrylonitrile	100	U
75-69-04	Trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
540-59-0	1,2-Dichloroethene (Total)	5.0	U
67-66-3	Chloroform	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	5.0	U
56-23-5	Carbon Tetrachloride	5.0	U
108-05-4	Vinyl Acetate	50	U
75-27-4	Bromodichloromethane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
79-01-6	Trichloroethene	5.0	U
124-48-1	Dibromochloromethane	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
71-43-2	Benzene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
75-25-2	Bromoform	5.0	U
108-10-1	4-Methyl-2-Pentanone	50	U
591-78-6	2-Hexanone	50	U
127-18-4	Tetrachloroethene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
108-88-3	Toluene	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
100-42-5	Styrene	5.0	U
1330-20-7	Xylene (Total)	5.0	U

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B = PRESENT IN BLANK
J = DETECTED, BUT BELOW PRACTICAL QUANTITATION LIMIT

APRIL 21, 1995

DATE COLLECTED : ---
DATE RECEIVED : ---
DATE ANALYZED : 4/17/95
ANALYST : L.C.

WAYNE L. COOPER
LABORATORY DIRECTOR

CASE NARRATIVE

REQUIREMENTS FOR ANY QA/QC LEVEL (Metals)

Please Note: If a CLP Package or the USEPA QA/QC Reporting Package known as "Quality Assurance/Quality Control - Guidance for Removal Activities" is requested all QA/QC reporting documentation required in those documents takes precedence over these requirements.

- General Requirements/Information (Required for all QA/QC Levels)

1. Date sampled 4-12-95 Date received 4-12-95
2. Number of samples received 3
3. Sample description Water
4. Sample preparation date 4/14/95
   Date extracted (if applicable) _____
5. Date analyzed 4/14-18/95 Time analyzed _____
   Analyst RLD/JN
6. Did Riedel indicate a specific method? Yes X No ___
   a. If Yes, what was that method? RCRA Metals (6000/7000) Cu Ni Zn (contract) 6010
7. Did Riedel specify additional QA/QC requirement beyond the minimum and mandatory items? Yes X No ___ If yes, please specify. Matrix Spike, Blanks, Surrogates where applicable
   a. What QA/QC level was requested? See above Used by lab? _____
   b. If lab used a different QA/QC level than requested by Riedel, an explanation must be supplied by lab. _____

- QC Remarks (Required as relates to QA/QC level requested)

1. Were holding times met? Yes X No ___ If No, why? _____
2. Test Methods
   a. Parameters Metals
   b. *Approved* Methods 6010 - 7471
   c. Was a cleanup method requested *for Semi-Volatile Organic Analyses?*
      1. Yes ___ No ___ N/A
      2. If No, what method was used and why? _____
      3. If Yes, identify method used? _____

3. Were peak resolutions *(i.e. Chromatograms)* requested? Yes ___ No ___ If Yes, please comment! N/A

4. Initial calibration (% Relative Standard Deviation) N/A

5. Has continuing calibration (% difference) been requested? If yes, indicate % difference. _____

6. Were all Matrix Spikes/Matrix Spike duplicates < 20% RSD? Yes X No ___

   a. If Yes, indicate I.D. No. and %. _____
   b. If No, indicate I.D. No. and %, plus why the < 20% RSD was not obtained. _____

7. Were surrogates run *for Organic Analyses*? Yes ___ No ___ N/A

   a. If Yes, indicate type and recovery (Min. Recovery is 80%). _____
   b. If not, indicate why not. _____
   c. If min. recovery was not obtained, indicate why not? _____

8. Please provide the following as applicable.

   a. Minimum Detection Limits: _____
   b. Estimated Quantitation Limits: _____
   c. Dilution Factor:

9. Were *any other annomalies encountered during the analysis*? Yes ___ No X

   a. If Yes, type: _____
   b. If Yes, why were they observed? _____

10. Was this laboratory work performed under either "Minimum and Mandatory Contractual Terms for Analytical Laboratories not on the Pre-Approved Midwest/Great Lakes Region Acceptance List" or a "Master Subcontract" with your laboratory, specifically for ERCS Region V? Yes X No ___

    a. If yes, Environmetrics states that the USEPA document known as "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures Interim Final EPA/540/G-90/004 April 1990" was utilized as guidance in the review and validation of all data for this project.

11. WARNING!! NO DATA SHALL BE RELEASED verbally, written, or otherwise to any authorized representative of Riedel Environmental Services, Inc. or their client that does not meet or exceed the QA/QC levels established in any written or verbal RFP for this project, or the requirements for any and all SW 846 Methods or EPA Methods utilized for this project.

Any incorrect data that is released to any authorized Riedel Environmental Services, Inc. representative or their client that causes improper site related work or disposal decisions to be made by Riedel Environmental Services, Inc. or their client, will cause Environmetrics to be completely liable for all costs associated with those decisions.

CASE NARRATIVE (Volatiles)

REQUIREMENTS FOR ANY QA/QC LEVEL

Please Note: If a CLP Package or the USEPA QA/QC Reporting Package known as "Quality Assurance/Quality Control - Guidance for Removal Activities" is requested all QA/QC reporting documentation required in those documents takes precedence over these requirements.

- **General Requirements/Information** (Required for all QA/QC Levels)

1. Date sampled 4-12-95 Date received 4-12-95
2. Number of samples received 3
3. Sample description water
4. Sample preparation date 4-17-95
   Date extracted (if applicable) Na
5. Date analyzed 4-17-95 Time analyzed 11:34AM 04:24PM
   Analyst Laura Casegrande
6. Did Riedel indicate a specific method? Yes X No ___
   a. If Yes, what was that method? 8240 (contract)
7. Did Riedel specify additional QA/QC requirement beyond the minimum and mandatory items? Yes X No ___ If yes, please specify. Matrix Spike Blank Surrogate
   a. What QA/QC level was requested? See above Used by lab? ___
   b. If lab used a different QA/QC level than requested by Riedel, an explanation must be supplied by lab. ___

- QC Remarks (Required as relates to QA/QC level requested)

1. Were holding times met? Yes X No ___ If No, why? ___
2. Test Methods
   a. Parameters VOC's
   b. *Approved* Methods 8240
   c. Was a cleanup method requested *for Semi-Volatile Organic Analyses*? N/A
      1. Yes ___ No ___
      2. If No, what method was used and why? ___
      3. If Yes, identify method used? ___

3. Were peak resolutions *(i.e. Chromatograms)* requested? Yes ___ No X If Yes, please comment. _____

4. Initial calibration (% Relative Standard Deviation) < 30 %

5. Has continuing calibration (% difference) been requested? If yes, indicate % difference. _____
< 20%

6. Were all Matrix Spikes/Matrix Spike duplicates < 20% RSD? Yes ___ No X

   a. If Yes, indicate I.D. No. and %. _____
   b. If No, indicate I.D. No. and %, plus why the < 20% RSD was not obtained. _____
   Only Matrix Spike

7. Were surrogates run *for Organic Analyses*? Yes X No ___

   a. If Yes, indicate type and recovery (Min. Recovery is 80%). _____
   See Surrogate Summary Form
   b. If not, indicate why not. _____
   Samples were reran if less than or greater than Lin. #1
   c. If min. recovery was not obtained, indicate why not? _____
   Matrix effect

8. Please provide the following as applicable.

   a. Minimum Detection Limits: 5
   b. Estimated Quantitation Limits: 5
   c. Dilution Factor: 1, 5, 50

9. Were *any other annomalies encountered during the analysis*? Yes ___ No X

   a. If Yes, type: _____
   b. If Yes, why were they observed? _____

10. Was this laboratory work performed under either "Minimum and Mandatory Contractual Terms for Analytical Laboratories not on the Pre-Approved Midwest/Great Lakes Region Acceptance List" or a "Master Subcontract" with your laboratory, specifically for ERCS Region V? Yes X No ___

    a. If yes, Environmetrics states that the USEPA document known as "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures Interim Final EPA/540/G-90/004 April 1990" was utilized as guidance in the review and validation of all data for this project.

11. **WARNING!! NO DATA SHALL BE RELEASED** verbally, written, or otherwise to any authorized representative of Riedel Environmental Services, Inc. or their client that does not meet or exceed the QA/QC levels established in any written or verbal RFP for this project, or the requirements for any and all SW 846 Methods or EPA Methods utilized for this project.

Any incorrect data that is released to any authorized Riedel Environmental Services, Inc. representative or their client that causes improper site related work or disposal decisions to be made by Riedel Environmental Services, Inc. or their client, will cause Environmetrics to be completely liable for all costs associated with those decisions.

CASE NARRATIVE (Semi-volatiles)

REQUIREMENTS FOR ANY QA/QC LEVEL

Please Note: If a CLP Package or the USEPA QA/QC Reporting Package known as "Quality Assurance/Quality Control - Guidance for Removal Activities" is requested all QA/QC reporting documentation required in those documents takes precedence over these requirements.

- **General Requirements/Information** (Required for all QA/QC Levels)

1. Date sampled 4-12-95 Date received 4-12-95
2. Number of samples received 3
3. Sample description water
4. Sample preparation date 4-13-95
   Date extracted (if applicable) 4-13-95
5. Date analyzed 4-18-95 Denise Coud Time analyzed 12:23 P. 1400
   Analyst _____
6. Did Riedel indicate a specific method? Yes X No ___
   a. If Yes, what was that method? 8270 (contract)
7. Did Riedel specify additional QA/QC requirement beyond the minimum and mandatory items? Yes X No ___ If yes, please specify. Matrix Spike Blanks Surrogate
   a. What QA/QC level was requested? See above Used by lab? _____
   b. If lab used a different QA/QC level than requested by Riedel, an explanation must be supplied by lab. _____

- QC Remarks (Required as relates to QA/QC level requested)

1. Were holding times met? Yes X No ___ If No, why? _____
2. Test Methods
   a. Parameters Semi-VOC's
   b. *Approved* Methods 8270
   c. Was a cleanup method requested *for Semi-Volatile Organic Analyses*?
      1. Yes ___ No X
      2. If No, what method was used and why? _____
      3. If Yes, identify method used? _____

3. Were peak resolutions *(i.e. Chromatograms)* requested? Yes ___ No X If Yes, please comment. _____

4. Initial calibration (% Relative Standard Deviation) < 30

5. Has continuing calibration (% difference) been requested? If yes, indicate % difference. _____
< 25

6. Were all Matrix Spikes/Matrix Spike duplicates < 20% RSD? Yes ___ No ✓

   a. If Yes, indicate I.D. No. and %. _____
   b. If No, indicate I.D. No. and %, plus why the < 20% RSD was not obtained. _____
   Only Matrix Spike Run

7. Were surrogates run *for Organic Analyses*? Yes ✓ No ___

   a. If Yes, indicate type and recovery (Min. Recovery is 80%). _____
   All Surrogates in Limits See Form
   b. If not, indicate why not. _____
   c. If min. recovery was not obtained, indicate why not? _____

8. Please provide the following as applicable.

   a. Minimum Detection Limits: < 10
   b. Estimated Quantitation Limits: < 10
   c. Dilution Factor: 1 + % moisture

9. Were *any other annomalies encountered during the analysis*? Yes ___ No X

   a. If Yes, type: _____
   b. If Yes, why were they observed? _____

10. Was this laboratory work performed under either "Minimum and Mandatory Contractual Terms for Analytical Laboratories not on the Pre-Approved Midwest/Great Lakes Region Acceptance List" or a "Master Subcontract" with your laboratory, specifically for ERCS Region V? Yes X No ___

    a. If yes, Environmetrics states that the USEPA document known as "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures Interim Final EPA/540/G-90/004 April 1990" was utilized as guidance in the review and validation of all data for this project.

11. **WARNING!! NO DATA SHALL BE RELEASED** verbally, written, or otherwise to any authorized representative of Riedel Environmental Services, Inc. or their client that does not meet or exceed the QA/QC levels established in any written or verbal RFP for this project, or the requirements for any and all SW 846 Methods or EPA Methods utilized for this project.

Any incorrect data that is released to any authorized Riedel Environmental Services, Inc. representative or their client that causes improper site related work or disposal decisions to be made by Riedel Environmental Services, Inc. or their client, will cause Environmetrics to be completely liable for all costs associated with those decisions.

CASE NARRATIVE Pest / PCB

REQUIREMENTS FOR ANY QA/QC LEVEL

Please Note: If a CLP Package or the USEPA QA/QC Reporting Package known as "Quality Assurance/Quality Control - Guidance for Removal Activities" is requested all QA/QC reporting documentation required in those documents takes precedence over these requirements.

- **General Requirements/Information** (Required for all QA/QC Levels)

1. Date sampled 4-12-95 Date received 4-12-95
2. Number of samples received 3
3. Sample description water
4. Sample preparation date 4-13-95 4-18-95 15:38 to 16:30
   Date extracted (if applicable) 4-13-95 4-21-95 09:13 to 10:40
5. Date analyzed 4-18-95 & 4-21-95 Time analyzed 12:23 to 14:00
   Analyst Jim Kilchen
6. Did Riedel indicate a specific method? Yes X No ___
   a. If Yes, what was that method? 8080 (contract)
7. Did Riedel specify additional QA/QC requirement beyond the minimum and mandatory items? Yes X No ___ If yes, please specify. Matrix Spike Blank Surrogate
   a. What QA/QC level was requested? See above Used by lab? ___
   b. If lab used a different QA/QC level than requested by Riedel, an explanation must be supplied by lab. ___

- QC Remarks (Required as relates to QA/QC level requested)

1. Were holding times met? Yes X No ___ If No, why? ___
2. Test Methods
   a. Parameters Pest / PCB
   b. *Approved* Methods 8080
   c. Was a cleanup method requested *for Semi-Volatile Organic Analyses*?
      1. Yes ___ No X
      2. If No, what method was used and why? ___
      3. If Yes, identify method used? ___

3. Were peak resolutions *(i.e. Chromatograms)* requested? Yes ___ No X If Yes, please comment. _____

4. Initial calibration (% Relative Standard Deviation) < 20

5. Has continuing calibration (% difference) been requested? If yes, indicate % difference. < 15

6. Were all Matrix Spikes/Matrix Spike duplicates < 20% RSD? Yes ___ No X

   a. If Yes, indicate I.D. No. and %. _____
   b. If No, indicate I.D. No. and %, plus why the < 20% RSD was not obtained. Only Matrix Spike Ran

7. Were surrogates run *for Organic Analyses*? Yes X No ___

   a. If Yes, indicate type and recovery (Min. Recovery is 80%). Surrogates were within Control Limits
   b. If not, indicate why not. _____
   c. If min. recovery was not obtained, indicate why not? _____

8. Please provide the following as applicable.

   a. Minimum Detection Limits: See Report
   b. Estimated Quantitation Limits: See Report
   c. Dilution Factor: See Report

9. Were *any other annomalies encountered during the analysis*? Yes X No ~~X~~ dilution

   a. If Yes, type: Samples had Severe Matrix Problems + needed
   b. If Yes, why were they observed? _____

10. Was this laboratory work performed under either "Minimum and Mandatory Contractual Terms for Analytical Laboratories not on the Pre-Approved Midwest/Great Lakes Region Acceptance List" or a "Master Subcontract" with your laboratory, specifically for ERCS Region V? Yes X No ___

    a. If yes, Environmetrics states that the USEPA document known as "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures Interim Final EPA/540/G-90/004 April 1990" was utilized as guidance in the review and validation of all data for this project.

11. WARNING!! NO DATA SHALL BE RELEASED verbally, written, or otherwise to any authorized representative of Riedel Environmental Services, Inc. or their client that does not meet or exceed the QA/QC levels established in any written or verbal RFP for this project, or the requirements for any and all SW 846 Methods or EPA Methods utilized for this project.

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